malted flour

1887

Date of Application, 29th Apr., 1887.
Specification Accepted, 10th June, 1887.

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RECORDED

A.D. 1887, *29th April.* N° 6285.

COMPLETE SPECIFICATION.

An Improved Process for Producing Albumen-Maltose Dietary Malt Powder for Food.

We Adolph Rasmus Leerbeck and Johan Friedrich Holm of the town of Copenhagen in the Kingdom of Denmark Chemists do hereby declare the nature of our Invention for An improved process for producing Albumen-Maltose or dietary malt powder for food and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to an improved process for producing Albumen Maltose in which the wheat flour is mixed with water to dough, this dough is allowed to remain for two hours in water, then cut into pieces, and laid in a cleansing apparatus, which is so constructed that water flows slowly continually over the said dough, which is worked upon at the bottom of the cleansing apparatus by an oblong milled roller moving to and fro. By this process the starch grains and bran are separated, which swollen by the action of the water, are conducted through perforated discs of metal, attached to the sides of the apparatus, in which there still remains the so-called gluten vegetable glue. This latter substance is tough & plastic and is repeatedly (about 10 times) passed between iron rollers, until it can be rolled into plates. These are dried at a temperature of 40° C. crushed & ground into fine powder. According to the examination & analysis carried out in the chemical laboratory of Professor-von Stein in Copenhagen this Gluten-flour contains the following

Water - - - - -	11·02 %
Gluten - - - - -	70·31 ,,
Fat - - - - -	2·56 ,,
Starch - - - - -	13·70 ,,
Nitrogenous-matter - - - -	1·69 ,,
Non organic - - - - -	0·72 ,,
	100·00 %

The fluid flowing from the cleansing apparatus, consisting of fine starch grains & bran that have been swollen in water, is conducted over a movable seive, covered with such fine gauze, that all the bran is separated out by this sifting.

The flour suspended in the water, is pumped into receptacles, [illegible] remain until it has settled. The water is now drawn off by [illegible] other appropriate apparatus, and the flour sediment cond[illegible] machine, making about 1000 revolutions a minute. On this [illegible]

[*Price 4d.*]

Sour yeast is separated out, consisting of impure flour sediment mixed with dissolved vegetable glue.

This flour sediment only superficially purified is again cleansed and conducted to a centrifugal machine making about 1500 revolutions a minute, here the last particles of impurity are separated out & flour sediment obtained free from acid & chemically pure. This is stirred in water & heated till it forms a paste, in this condition under the influence of Diastase, the said flour sediment is converted at a temperature of 65° C. into Maltose & Dextrose. To the pure solution of the aforesaid sediment is added the Albumen-materials (Adhesive Substances) chloride of sodium & phosphate of lime. The whole preparation is then subject to evaporation, and dried whereupon it is ground into powder & stored in tins ready for use.

A preparation is now obtained which consists, according to the examination and analysis carried out in the chemical labatory of Professor-von-Stein in Copenhagen of

Water	3·00 %
*Albuminous-matter	15·06 „
Maltose	48·78 „
Starch Dextrine etc.	29·63 „
Non organic material **Phosphate-of-Lime, Chloride of Sodium	2·73 „
	100·00 %

*Containing Nitrogen 2·41—**Phosphoric acid 0·61.

As this preparation contains a greater quantity of Albuminous matter than wheat flour, and the flour sediment, that has passed into the preparation in converted form after the described cleansing process amounts to 50 % of the whole preparation it follows herefrom that in the manufacture of Albumen-Maltose, in the manner herein described considerable layers of flour sediment accumulate which may be used as follows: From the yeast separated out on the first centrifugal machine a second quality starch is abstracted, applicable for finishing purposes. The remaining chemically pure flour sediment is brought into the market as first quality Wheat Starch on account of its purity, the same is especially valuable in chemists laboratories as amylum triticum, as well as in households and in the manufacture of confectionery. This preparation is distinguished from malt extract on account of its containing a larger amount of vegetable albumen, by its dry powder form, as well as through the method of producing it because as herein described it is obtained from the completely purified flour sediment and the dissolved vegetable glue (gluten) from the wheat flour.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim and desire to secure by Letters Patent is :—

The process as herein described of producing Albumen-Maltose from wheat flour, the principle remarkable feature of which is, that the cleansed starch, transformed under the influence of Diastase at a temperature of 65° C into Maltose (at the same time producing as by-products finishing or starch of second quality & amylum-triticum,) forms after the addition of cloride of sodium & phosphate of lime to the pure solution of maltose together with the vegetable gluten, gained also from the aforesaid wheat flour, and after boiling & evaporation a compound, which is ultimately dried & ground, substantially as set forth in the foregoing specification.

Dated this 29th day of April 1887.

PHILIP M. JUSTICE,
Associate Agent.

LONDON : Printed by Darling and Son.
For Her Majesty's Stationery Office.
1887.